

Interactive technology classroom choices

Interactive whiteboards, whiteboard/projector systems, interactive projectors, LCD interactive touchscreens

Where a school has been using interactive whiteboards for several years, the ceiling or wall mounted projectors may be nearing the end of their useful life. So do you replace them or choose a whiteboard projector system or opt for interactive projectors or select from the many LCD interactive touchscreens on the market...

With so many choices, here we look at a few of the options that are available to you. You could replace your interactive whiteboards and projectors or opt for all-in-one interactive whiteboard systems which give you a choice of having a short throw projector or ultra short throw projector on a fixed or adjustable wall mount or mounted on a mobile trolley. And what about the whiteboard, do you want single touch, dual touch or 3 or more students to use the board at the same time? You could choose interactive projectors where you can utilise dry-erase whiteboards or even project a large image onto a wall as you don't need to use an interactive whiteboard with these. Manufacturers of plasma or LCD interactive touchscreens include software, some of which is tailored to the education market. No wonder it can be confusing when there are so many choices!

When I mentioned to a teacher I was writing this article, I was asked which technology was best. There is no 'best' technology only different technologies. Take interactive whiteboards for instance. A few years ago it was a choice between

resistive or electromagnetic. Resistive touch works by sensing pressure from your fingers or other objects such as an upside pencil. Electromagnetic whiteboards are pen-based using the special pen supplied.

These technologies are still available, as are interactive whiteboards which use infrared, HD camera in the pen and optical sensing. Rather than go into details about technologies, what is likely to matter more in the classroom is the size of the board and whether you want to use pen, touch or both, single touch, dual touch, or 3 or more users to get involved in group interactivity. So let's look at what manufacturers have to offer (in no particular order).

Interactive whiteboards and all-in-one projector whiteboard systems

PolyVision eno

PolyVision eno boards are 3-in-1 boards in sizes 78" and 96" and comes with Easiteach software. You can write on them with a marker pen, attach magnets or as an interactive whiteboard using a projector. The board's surface is

environmental ceramicsteel, which is extremely hard wearing. The board is maintenance free and uses a stylus. All eno whiteboards and eno mini slates enable up to three users to use the board at the same time.

The eno family includes **eno classic**, the 3-in-1 board; **eno one** which includes an interactive whiteboard, 87" or 96", an ultra-short throw projector on fixed or adjustable wall mount or trolley, educational software and stand/mount; **eno flex** which is a multi-surface solution that integrates dry-erase surfaces with PolyVision's eno classic, supplied with PolyVision ultra short throw projector. Accessories include eno play which brings sound to the eno boards and eno mini which is a mini interactive whiteboard (wireless slate).

SMART Boards

The SMART Board® family includes 400 series, the 600 series and the 800 series. The 400 series uses the classic pen and finger based technology. The 480iv is a ready to go system which comes complete with a SMART V25 short throw projector and integrated speakers.



PolyVision eno classic interactive whiteboard



PolyVision eno one all-in-one solution



PolyVision flex supplied with ultra short throw projector



SMART Board 480iv

Within the 600 series there are integrated short throw projectors/speaker options as well as standard and widescreen options. With the 685ix touch recognition you can write, erase, move objects and control applications simply by touching or writing on the board. The SMART Board 800 series allows two users to work together, using simple, intuitive gestures to flick, rotate or zoom in on objects.

Promethean ActivBoards

ActivBoard 300 Pro series of interactive whiteboards, which use a special pen, combine interactivity with integrated sound (built-in speakers and amplifier). In sizes 78", 87" and 95", the surface is durable and the series is available as a fixed, adjustable, mount or mobile system with a choice of short throw or extreme short throw projectors. For wireless connectivity there is an optional wireless upgrade pack.

The ActivBoard 500 Pro system has the same sizes and is both pen and touch sensitive, featuring dual user functionality. Up to four students can work together on a task (Windows 7/8 only). Included software for both series is ActivInspire Professional Edition or Promethean ActivOffice. For the 500 Pro series there is also Promethean Apps. ActivInspire software has open content and teaching resources, such as math tools, sounds and templates, whilst ActivOffice lets you create PowerPoint® slide shows. USB power and USB port simplifies connection to your computer.



SMART Board 865ix touch or write



SMART Board 886ix dual touch

Panasonic interactive whiteboards



Panasonic Panaboard copyboards are well established in the industry, however, Panasonic also have interactive whiteboards in its range. The UB-T880 and the widescreen T880W boards allow up to three students to use the board at the same time, you can also use the special pen. You can create an all-in-one system by adding a Panasonic short throw or ultra short throw projector, along with a wall mount. The boards have built-in speakers and optional wireless kit. Comes with Easiteach software.



ActivBoard 300Pro fixed system



ActivBoard 300Pro adjustable



ActivBoard 500Pro short throw



ActivBoard 500Pro fixed UST

**For comparison charts, prices and manufacturers brochures please visit www.digital-whiteboards.co.uk
For demonstrations and sales enquiries in the UK please contact • 01754 769967 • sales@wedgwood-group.com**



Hitachi FX-79E1/FX-89WE1 Series



Hitachi FX board with ultra short throw projector



Hitachi StarBoard LINK EZ2-Pen portable interactive unit

Hitachi Starboards

Hitachi FX-79E1 and FX-89WE1 series has a large interactive area and two simultaneous inputs for collaborative work. You can use your finger, stylus or any object to operate. The Magical Touch function enables you to easily scroll by motioning with the flat of your hand, or shrink and expand the display by motioning your fingers, and you can control by using multi-touch hand gestures. The boards also have a low glare surface to minimise projector reflection. StarBoard educational software is included. Hitachi's interactive ultra short throw projector lets you project onto a dry-erase whiteboard or plain white wall turning it into an interactive surface. Environmentally friendly, it comes with Hitachi StarBoard software and an interactive pen. It is also supplied with a versatile wall mount.

Hitachi StarBoard LINK EZ2-Pen is a portable interactive unit that allows you to turn any regular dry-wipe whiteboard or a wall into an interactive area with all the features of an interactive whiteboard.

Interactive projectors

Where you have classrooms and meeting rooms with existing dry-wipe whiteboards and do not wish to replace with interactive whiteboards, then using an interactive projector maybe a solution for you.

With an interactive projector you can project onto a standard dry-erase whiteboard or even a plain wall, annotating and writing directly onto the projected surface using a special pen. This means you do not have to incur the expense of purchasing an interactive whiteboard. Where an interactive projector will let you also position on a table top you can project and interact onto a table, ideal for when you want a small group of students to 'gather round' to discuss a subject. Some models have dual pen support.

Hitachi interactive projectors

Hitachi interactive projectors work like normal projectors with the additional feature of an interactive pen and StarBoard software. This enables you to transform any dry-erase whiteboard, wall, a table top or a flat surface into an interactive teaching aid. Using the StarBoard software you can annotate and interact with your training material rather than just project static images. However, unlike the multi-user interactive TRIO boards, only one person at a time can annotate using the interactive projector.

Epson interactive projectors

You make almost any wall or even a tabletop interactive with Epson's interactive projectors. The network ready projector and interactive pens integrate interactive functionality into one machine without having the expense of buying a separate interactive whiteboard. You can annotate from any source, directly onto projected images sent over the network or on content from DVD/Blu-ray® players and document cameras, without the use of a computer. With dual pen support, two people can write simultaneously, and being ultra short throw you can project WXGA images up to 100" without shadow interference.



Hitachi interactive projectors with StarBoard



Epson EB-1400Wi interactive projector



NEC interactive projectors

NEC's UM-Series of ultra short throw projectors, have dual HDMI inputs, built-in 16 Watt speaker, so you won't need an extra sound system in your classroom, and VGA, USB hub and microphone input. The optional NEC NP01Wi2 interactive whiteboard kit uses eBeam® application software and stylus in combination with NEC's short-throw or ultra short-throw projectors, from the NEC U or M series, to transform any existing flat surface into an interactive area. This device is quick and easy to install and is an easy upgrade of already installed NEC projectors.



NEC NP01Wi2 interactive whiteboard kit with mouse driver and software



Example Installation of the NP01Wi2 interactive whiteboard kit with an NEC U Series projector

SONY interactive projectors

Designed for education, SONY's interactive projectors are the ideal teaching tool for glare-less projection in changing light conditions. They offer ease of installation, multimedia connectivity and dual pen (teacher-student) interactivity. A low brightness mode reduces power consumption and extends the lamp lifetime to approximately 6000 hours, lowering overall operating costs. This projector is ideal for small or difficult spaces as its ultra short throw ratio can produce a 2.03m (80") diagonal screen image from only 0.47-0.49m (1.54-1.61 feet) away from the screen. SONY's VPL-SW525C ultra short throw interactive projector, compatible with an interactive iPad, has dual pen interactivity to allow you and your students to create, present, interact, playback and save work with most presentation files and 3rd party interactive software. SONY projectors have a 3 year de-install / re-install warranty for educational environments.



Sony VPL-SW525C interactive projector

Interactive touchscreens

The majority of your students have smart phones with touch screens and they used to using touch to make phone calls, surf the web, access files and play games.

Interactive tablets, are really just a larger version of the screens used on smart phones. Large format displays (LFD) with interactive touch (touchscreens) are larger versions of phone and tablet screens, and therefore, students feel quite at home using this technology.

Many display manufacturers offer touchscreens in their range. However, only a few come with interactive whiteboard software tailored for the education market. Amongst these are BenQ's TL650 uses SMART Notebook software, which those of you who have SMART Boards in your classroom will already be familiar with this software. Hitachi's interactive large format display includes Hitachi Starboard educational software. CleverTouch includes Lynx software and Wordwall for interactive activities in the classroom. iiyama's TH5563MTS interactive LCD uses Justeay software.



BenQ TL650 LED interactive display

BenQ's TL650 65" LED interactive display is ideal for education and can be bought with or without SMART Notebook collaborative licence. The display has an ambient light sensor to adjust to the room's natural light; an RJ45 LAN control which lets you operate the system and change display contents at a remote location. It is energy efficient and allows you to assemble several displays as a large one to accommodate multiple windows or other usages

that require a large screen. With the built-in DVI port, you can splice an image into 1x2 to 5x5 screens for flexible placement of images. The display uses optical touch that gives responsive feedback with accurate positioning. You can touch the screen to pan, zoom and scroll images with two fingers through the Nextwindow™ technology. This eliminates the need for a mouse or keyboard, so you can operate education software or presentations like using a tablet to enjoy an engaging experience.

Manufacturers brochures, prices and product comparisons are available in the UK from:

- Wedgwood AV Ltd
- 01754 769967
- sales@wedgwood-group.com
- www.wedgwood-group.com

Sharp BIG PAD

E-learning is increasingly popular with YouTube and iTunes being widely used sources of educational content. Consequently, educators are looking to introduce innovative learning solutions to engage the 'digital generation'. Today's students are keen to embrace new technology and improve their learning experience and this is why Sharp have developed a range of BIG PAD interactive monitors. These robust touch screens in 60", 70" and 80" sizes, are designed for optimum performance in the classroom. An anti-reflective coating ensures comfortable viewing even in brightly lit areas, and highly accurate high definition (HD) imagery means everyone can see content in crisp detail wherever they are sitting. Sharp BIG PAD 60" and 70" screens use infrared technology that ensures its easy to write quickly using either the supplied pen or your finger, with no need to continually calibrate the screens. BIG PAD supports dual-touch function when used with Windows®7/8. The 80" size screen uses optical imaging technology that uses optical cameras in the upper right and left corners of the screen to detect shadows made on the screen by your finger or the touch pen.

Wedgwood AV publish a Touchscreen guide, free to download www.teachingtechnology.co.uk and a free LCD monitor guide at www.lcd-monitors.co.uk

CTOUCH

CTOUCH interactive touch displays are the latest generation of interactive large format touch displays designed for the classroom. The CTOUCH Leddura LED range is available in sizes ranging from 47"-84" and features clear and anti-reflective glass options. Designed to be connected to a laptop or PC, all models are Plug and Play with no need to install drivers on Windows, MAC or Linux. The range supports a minimum of 4 points of touch (10 points available) for enhanced collaboration. The Leddura range includes built in speakers and displays Full HD content from 2 HDMI sources. Plenty of other connection options including 2 USB ports, ensures you can connect up other devices



CTOUCH Leddura interactive touch screens



iiyama TH5563MTS with Just2Easy software



Clevertouch with DisplayNote software



Clevertouch C-Series with Wordwall

NEC touchscreens

NEC have a range of touchscreens from desktop models 17", 20" and 22", to large format public display touchscreens from 32" to 70" using a variety of touch technologies to suit various applications. These include Surface Capacitive which is unaffected by on screen contaminants such as grease, dirt and water; Projected Capacitive touch which uses electrical signals to show where your finger touches the screen, not suitable for use with gloved hands or pens; Dispersive Signal touch technology which will operate with static objects or other touches on the screen, making it ideal for tabletop applications; Optical Sensing which uses cameras in the corners of the screen making them ideal for annotation. Dual touch is only possible with Windows®7/8.

ELO Touch

elo Touch screens offer a range of touch technologies to suit many applications. For example, in the 19-inch desktop touchscreens there is a choice AccuTouch, APR, IntelliTouch, P-CAP (Projected Capacitive), and medical versions ideal for university teaching hospitals. AccuTouch five-wire resistive touch technology has long product life, stable drift-free operation, contamination resistance, giving accuracy in high use applications, used for medical equipment, pharmacy and office automation. Acoustic Pulse Recognition (APR) works with finger, glove, pen or credit card, is resistant to water, dust and grease, works even with scratches, has excellent drag performance, thin borders of 5mm, ideal for interactive digital signage. IntelliTouch uses surface acoustic wave (SAW) touch technology, which uses pure glass construction for good image quality, has stable, drift-free operation, can work even if scratched and has a 10-year warranty, ideal for kiosks and interactive digital signage. Projected capacitive can be used for outdoor (IP rated screens), in



elo Touch touchscreens



NEC V462-TM touchscreens

rain, snow, ice and dust, and the touch function operates through customer installed materials including vandal-resistant glass up to 18mm thick. Works with gloves, even if glass is scratched. True-flat front surface is possible with no bezel. elo Touch has touchscreens in many sizes from 15-inch to 70-inch, with other touch technologies including Surface Capacitive and ReverSys bending wave, the latter used multi-touch and 3D. elo Touch are happy to provide you with a no-obligation onsite demonstration in mainland UK educational and university teaching hospitals to ensure you select the correct touch technology for your needs before making purchasing decisions. To book a demonstration please telephone Wedgwood AC on 01754 769967 to arrange this.

Hitachi

Hitachi LED 65 screen is designed to make lessons bright and memorable. Its dual and multi-touch capability allows your students to collaborate simultaneously, encouraging cooperation and teamwork in the classroom. The LED 65 screen comes with StarBoard software, which has a dynamic set of lesson building tools designed specifically for teachers. It is compatible with most operating systems, has a customisable floating toolbar, hand writing recognition, direct access to the



Hitachi LED 65 screen

such as laptops, a TV digibox, DVD player or visualiser. There is also an option to insert a small form factor PC via the OPS slot. Every CTOUCH ships with a 3 user licence of Ctools Plus interactive annotation software and a DisplayNote Presenter licence is also provided that allows for collaboration with iPad and Android tablets, laptops, PCs and smartphones. Comes with three year on-site next working day, de-installation/reinstallation warranty (can be extended to 5 years). Onsite mainland UK demonstrations are available, please telephone Wedgwood AV on 01754 769967 to arrange this.

iiyama

iiyama ProLite TH5563MTS touchscreen comes with Just2Easy educational software. Full high definition (HD), the touchscreen has an LED backlight for energy efficiency, and an ambient light sensor which also saves on power. This 55-inch commercial screen uses IPS panel technology which means you can see the display from all angles, with high brightness and colour clarity. IPS technology gives higher contrast, darker blacks and much better viewing angles than standard TN technology. The screen will look good no matter what angle you view from. It also supports picture-in-picture (PIP) which lets you watch images coming from two different sources at the same time. The TH5563MTS uses cameras and infrared backlight for touch accuracy when the infrared light is blocked by your finger or stylus, and with this technology it is almost impossible to 'wear out' the screen. In fact you don't even have to touch the screen, you just need to put your finger (gloved or not) or any kind of stylus close to it. Dual touch is supported when using Windows®7/8 only.

Clevertouch

Sahara Clevertouch is one of the largest ranges of interactive displays, with sizes from 42" to 82". The latest touchscreen technology is integrated into the screen enabling it to be dual touch or multi touch, including gesture control and allowing multiple users. The Clevertouch range does not require drivers, calibration or set up, meaning that Clevertouch is always ready to go when you are. The high brightness display means that images are clearly visible and there is no shadowing. Every Clevertouch comes with the interactive software, CleverLynx with Wordwall, which has been created for use with any interactive device. You can construct fantastic activities for your classroom or use the 25,000 pre-created activities. A variety of subject specific screen backdrops are available to enhance lessons including lined, graph, isometric, squared, hexagonal and music manuscript paper. Clevertouch also includes DisplayNote software which lets you share content with any other connected device.

Internet, allows importing of Microsoft Office files (Word, PPT, etc), supports interactive whiteboard common file format (CFF) for easy sharing of educational content and has a remote conferencing feature. As Hitachi StarBoard software is used with Hitachi interactive whiteboards, teachers who already have Hitachi's whiteboards onsite, would not need to learn another software package, when using the LED 65 screen. Unlike with interactive whiteboard and projector solutions, there is no shadowing with LED screens. Also, with the LED 65 screen there is no on-going maintenance required as there are no lamps to change, and Hitachi give a comprehensive 3 years warranty. Unlike interactive whiteboards that use resistive touch technology, which can be scratched or damaged, the LED 65 screen has 5mm toughened glass with a steel bezel, combined with guaranteed 24/7 usage, makes it a durable solution for many applications. Where you have an interactive whiteboard and projector solution, to view images in high definition (HD), you would need to use an HD projector (1920x1080), whilst the LED 65 screen has a full HD (1080p) high brightness display making your interactive software and images clear and detailed.

Wedgwood AV publish a free LCD monitor guide at www.lcd-monitors.co.uk and a Touchscreen guide, free to download at www.teachingtechnology.co.uk

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